What is claimed is:

1. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon on an insulating surface;

forming a crystallization promoting material comprising a metal in contact with said semiconductor film; and

crystallizing said semiconductor film in contact with said crystallization promoting material,

wherein the step of crystallizing said semiconductor film is carried out successively after the formation of said crystallization promoting material without exposing said semiconductor film and said crystallization promoting material to the air.

2. The method according to claim 1 wherein said methal is selected from the group consisting of Ni, Pd, Pt, Cu, Ag, Au, In, Sn, and Sb.

3. The method according to claim 1 further comprising a step of patterning the crystallized semiconductor film to form an active layer of a thin film transistor.

4. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon on an insulating surface;

forming a crystallization promoting material comprising a metal in contact with said semiconductor film; and

crystallizing said semiconductor film by heating said

semiconductor film;

wherein the step of forming the crystallization promoting material and the step of crystallizing said semiconductor film are conducted successively in a same apparatus without exposing said semiconductor film and said crystallization promoting material to the air.

sub C2 5. The method according to claim 4 wherein said methal is selected from the group consisting of Ni, Pd, Pt, Cu, Ag, Au, In, Sn, and Sb.

6. The method according to claim 4 further comprising a step of patterning the crystallized semiconductor film to form an active layer of a thin film transistor.

sub B3 7. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon on an insulating surface;

forming a crystallization promoting material comprising a metal in contact with said semiconductor film by using a vapor of a gas containing said metal; and

crystallizing said semiconductor film in contact with said crystallization promoting material,

wherein the step of crystallizing said semiconductor film is carried out successively after the formation of said crystallization promoting material without exposing said semiconductor film and said crystallization promoting material to the air.

8. The method according to claim 7 wherein said methal is selected from the group consisting of Ni, Pd, Pt, Cu, Ag, Au, In, Sn, and Sb.

9. The method according to claim 7 further comprising a step of patterning the crystallized semiconductor film to form an active layer of a thin film transistor.

10. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon on an insulating surface;

forming a crystallization promoting material comprising a metal in contact with a selected portion of said semiconductor film; and

crystallizing said semiconductor film in contact with said crystallization promoting material,

wherein the step of crystallizing said semiconductor film is carried out successively after the formation of said crystallization promoting material without exposing said semiconductor film and said crystallization promoting material to the air.

11. The method according to claim 10 wherein said methal is selected from the group consisting of Ni, Pd, Pt, Cu, Ag, Au, In, Sn, and Sb.

12. The method according to claim 10 further comprising a step of patterning the crystallized semiconductor film to form an active layer of a thin film transistor.

13. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon on an insulating surface;

forming a crystallization promoting material comprising a metal in contact with a selected portion of said semiconductor film; and

crystallizing said semiconductor film by heating said semiconductor film;

wherein the step of forming the crystallization promoting material and the step of crystallizing said semiconductor film are conducted successively in a same apparatus without exposing said semiconductor film and said crystallization promoting material to the air.

14. The method according to claim 13 wherein said methal is selected from the group consisting of Ni, Pd, Pt, Cu, Ag, Au, In, Sn, and Sb.

15. The method according to claim 13 further comprising a step of patterning the crystallized semiconductor film to form an active layer of a thin film transistor.

16. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising amorphous silicon on an insulating surface;

forming a crystallization promoting material comprising a metal in contact with a selected portion of said semiconductor film by using a vapor of a gas containing said metal; and

crystallizing said semiconductor film in contact with said crystallization promoting material,

wherein the step of crystallizing said semiconductor film is carried out successively after the formation of said crystallization promoting material without exposing said semiconductor film and said crystallization promoting material to the air.

17. The method according to claim 16 wherein said methal is selected from the group consisting of Ni, Pd, Pt, Cu, Ag, Au, In, Sn, and Sb.

18. The method according to claim 16 further comprising a step of patterning the crystallized semiconductor film to form an active layer of a thin film transistor.